

What is claimed is:

1. A combination comprising a plurality of cDNAs that are differentially expressed in a colon disorder and selected from SEQ ID NOs:1-3, 5, 6, 8-10,12, 14, 15, 17, 18, 20, 22, 24, 26-29, 31, 33, 34, 36-39, 41-43, 45-47, 49, 51, 53, 55-58, 60, 62, 64, 66, 67, 69, 71, 72, 74-79, 81, 83-86, 88, 89, 91, 92, 94, 96, 97, 99, 100, 102-104, 106, 107, 109, 111, 112, 114, 116, 118, 119, 121, 123-126, 128, 130, 131-137, 139, 140, 142-151, 153-157, 159, 160, 162-165, 167-172, 174, 176, 177, 179-181, 183-187, 189-191, and 193 or their complements.

2. The combination of claim 1 selected from SEQ ID NOs:172, 174, 176, 177, 179-181, 183-187, 189-191, and 193, wherein the disorder is a colon cancer.

3. The combination of claim 1, wherein the cDNAs are immobilized on a substrate.

4. A high throughput method for detecting differential expression of one or more cDNAs in a sample containing nucleic acids, the method comprising:

(a) hybridizing the substrate of claim 3 with nucleic acids of the sample, thereby forming one or more hybridization complexes;

(b) detecting the hybridization complexes; and

(c) comparing the hybridization complexes with those of a standard, wherein differences between the standard and sample hybridization complexes indicate differential expression of cDNAs in the sample.

5. The method of claim 4, wherein the nucleic acids of the sample are amplified prior to hybridization.

6. The method of claim 4, wherein the sample is from a subject with a colon cancer and comparison with a standard defines an early, mid, or late stage of that disease.

7. A high throughput method of screening a plurality of molecules or compounds to identify a ligand which specifically binds a cDNA, the method comprising:

(a) combining the combination of claim 1 with the plurality of molecules or compounds under conditions to allow specific binding; and

(b) detecting specific binding between each cDNA and at least one molecule or compound, thereby identifying a ligand that specifically binds to each cDNA.

8. The method of claim 10 wherein the plurality of molecules or compounds are selected from DNA molecules, RNA molecules, peptide nucleic acid molecules, mimetics, peptides, transcription factors, repressors, and regulatory proteins.

9. An isolated cDNA selected from SEQ ID NOs:12, 41, 71, 74, 154,162, 167, 170, and 177.

10. A vector containing the cDNA of claim 9.

11. A host cell containing the vector of claim 10.

12. A method for producing a protein, the method comprising the steps of:

- (a) culturing the host cell of claim 11 under conditions for expression of protein; and
  - (b) recovering the protein from the host cell culture.
13. A protein or a portion thereof produced by the method of claim 12.
14. The protein of claim 13 selected from SEQ ID NOs:13 and 178.
- 5 15. A high-throughput method for using a protein to screen a plurality of molecules or compounds to identify at least one ligand which specifically binds the protein, the method comprising:
  - (a) combining the protein of claim 13 with the plurality of molecules or compounds under conditions to allow specific binding; and
  - (b) detecting specific binding between the protein and a molecule or compound, thereby identifying a ligand which specifically binds the protein.
- 10 16. The method of claim 15 wherein the plurality of molecules or compounds is selected from DNA molecules, RNA molecules, peptide nucleic acid molecules, mimetics, peptides, proteins, agonists, antagonists, antibodies or their fragments, immunoglobulins, inhibitors, drug compounds, and pharmaceutical agents.
- 15 17. An antibody which specifically binds the protein produced by the method of claim 19.
18. A method of using a protein to produce a polyclonal antibody, the method comprising:
  - a) immunizing an animal with the protein of claim 13 under conditions to elicit an antibody response;
  - b) isolating animal antibodies; and
  - 20 c) combining the isolated antibodies with the protein under conditions to form an antibody:protein complex; and
  - d) dissociating the protein from the complex, thereby obtaining purified antibody.
19. A method of using a protein to prepare a monoclonal antibody comprising:
  - a) immunizing a animal with a protein of claim 13 under conditions to elicit an antibody response;
  - 25 b) isolating antibody producing cells from the animal;
  - c) fusing the antibody producing cells with immortalized cells in culture to form monoclonal antibody producing hybridoma cells;
  - d) culturing the hybridoma cells; and
  - 30 e) isolating from culture monoclonal antibodies which specifically bind the protein.
20. A method for using an antibody to detect expression of a protein in a sample, the method comprising:
  - a) combining the antibody of claim 17 with a sample under conditions which allow the formation of antibody:protein complexes; and
  - 35 b) detecting complex formation, wherein complex formation indicates expression of the

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protein in the sample.

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